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ABSTRACT

This book was written to provide the teacher with a collection of problems that address the Standards set forth by the National Council of Teachers of Mathematics (NCTM). The primary goal of this book is to help develop these skills for middle school and junior high school students through the application of critical reading and critical thinking. The text contains 18 non-routine problem-solving activities. Each activity calls upon students to use not only traditional computational and problem-solving skills, but also a variety of reasoning and communication skills. The activities are grouped in pairs. Each pair offers two problems which stress similar thinking and reading skills and can be solved by similar problem-solving techniques. The second activity in each pair offers a new problem situation which is more complex than the first and extends the skills being developed. A Skills Chart identifies the major skill areas used in solving each of the activities. The types of activities include: (1) deductive reasoning; (2) scheduling; (3) computational; (4) trial and error permutations; (5) sequencing; (6) ranking non-quantified data; (7) statistical; and (8) inferential reading. The Teacher Information section includes the skills, possible modes of instruction, a description of the preparation, different ways to solve the problem, and the solution. (KR)

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